Abstract

Process for the preparation of optically highly pure (R) - and (S) - α -hydroxycarboxylic acids, in which isolated, impure (R)and hydroxycarboxylic acids prepared by acidic hydrolysis of the (R) - and (S) - cyanohydrins obtained by enzymecatalyzed addition of a cyanide group donor to the corresponding aldehydes or ketones are recrystallized in an aromatic hydrocarbon, optionally in the presence of a cosolvent, and optically highly pure (R) - and (S) - α -hydroxycarboxylic acids having an optical purity of over 98%ee are obtained or the hydrolysis solution obtained by acidic hydrolysis of the (R)- and (S)cyanohydrins is treated directly with an aromatic hydrocarbon, optionally combination in with cosolvent, and is then extracted at hydrolysis temperature, whereupon after cooling of the organic phase the corresponding chemically and optically highly pure (R)- and (S)- α -hydroxycarboxylic acids having an optical purity of over 98%ee crystallize out.